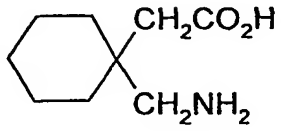
We Claim

1. An improved process for the preparation of gabapentin of the formula 1



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which comprises

(i) preparing an aqueous solution of Gabapentin hydrochloride in water in the ratio of one part by weight of the former to 0.5 to 3 parts by weight of the later,

(ii) preparing an aqueous solution of an alkali metal base in a concentration in the range of 40-50% w/w

(iii) adding 0.08 to 0.3 parts by weight of the solution obtained in step (ii) to 1.5 to 4 parts by weight of the solution obtained in step (i) at a temperature in the range of 0 to 20 degree C

(iv) heating the resulting solution gradually to a temperature in the range of 50-90 degree C

(v) gradually cooling the resulting solution to a temperature in the range of 0 to 15 degree C to obtain a precipitate,

(vi) aging the precipitate for a period in the range of 0.5 hrs to 8 hrs at a temperature in the range of 0 to 15 degree C

(vii) Separating the precipitate from the mother liquor by conventional methods and

(viii) recrystallising the precipitate from a mixture of IPA, methanol & water to get Gabapentin of over 99.5 % purity and a mother liquor

2. An improved process as claimed in claim1 wherein the amount of gabapentin hydrochloride and water used in step (i) is in the range of 0.5 to 2.5 parts of water to 1 part of the Gabapentin hydrochloride and more preferably 1.5 to 2.5 parts of the water

3. An improved process as claimed in claims 1 & 2 wherein the alkali used in step (ii) may preferably be sodium hydroxide or potassium hydroxide, more preferably sodium hydroxide.

4. An improved process as claimed in claims 1 to 3 wherein the solution of alkali used is in a concentration in the range of 40-50% w/w more preferably in the concentration in the range of 45-50% w/w in water.

5. An improved process as claimed in claims 1 to 4 wherein the temperature employed in step (iii) is preferably 10-20deg C and more preferably 10-15 deg C.

6. An improved process as claimed in claims 1 to 5 wherein the temperature employed in step (iv) used is preferably be 50-75deg C and more preferably 60-70 deg C.

7. An improved process as claimed in claims 1 to 6 wherein the temperature employed in step (v) is preferably 5.15 C deg and more preferably 5-10deg C .

8. An improved process as claimed in claims 1 to 7 wherein the time employed for aging the precipitate in step (vi) is preferably be between 0.5 to 3 hrs and more preferably 0.5 to 1 hr.

9. An improved process as claimed in claims 1 to 8 wherein the separation of gabapentin in step (vii) effected by filtration, more preferably centrifugation.

10 A novel improved process for the preparation of Gabalactam of the formula 3 which comprises treating the mother liquors obtained in steps (vii) & (viii) of the above mentioned process with aq.sodium hydroxide in a concentration in the range of 5 to 20% at a temperature in the range of 80 to 100 degree C, recovering the gabalactam by extraction with organic solvents.

11. A novel improved process as claimed in claim 10 wherein the concentration of sodium hydroxide used ranges from 10-to 20 %, the temperature used ranging from 80 to 85 deg C

12. A novel improved process as claimed in claims 10 & 11 wherein the recovery of gabalactam is effected by extracting the reaction mixture with solvents such as toluene, ethylene dichloride, methylene dichloride or hexane , preferably toluene.